ComQi

EnGage

Connectivity Brief - CL7

Overview of Media Player

A digital media player ("player") is located behind the screen. The player periodically down-loads content and playlists from the Internet. The player is connected to the Internet via a data connection on your existing network. The player "calls out" to a central server via secure Internet connection and downloads content. The player loads the content obtained from the connection before displaying the content. The player does not stream content via the Internet. This allows the Information Center to dis-play content even in the even of a network failure by continually playing the most-recent content it has obtained.

Network Connections

The connection to the player is provided by a CAT5 or CAT6 network drop. This can be installed by our technicians if required. For the player to have access to our servers, it requires an active Internet gateway, with access to the following IP ad-dresses and ports

Initial Connection

cl7-app.comqionline.com	34.134.240.195	Port 1100

Discovery

cl7-app01.comqionline.com	35.223.229.26	Port 1101
cl7-app02.comqionline.com	35.226.42.100	
cl7-app05.comqionline.com	35.223.42.48	

Connection

cl7-app01.comqionline.com	35.223.229.26	Port 8093
cl7-app02.comqionline.com	35.226.42.100	
cl7-app05.comqionline.com	35.223.42.48	

Content Download (FTP and FTPS)

cl7-con.comqionline.com	34.121.113.140	Port 21 Ports 50000-55000

Content Download Alternative (HTTP and HTTPS)

cl7-con.comqionline.com	34.121.113.140	Port 80 or 443

NTP Time Synchronization

pool.ntp.org (One Time)	Location specific	Port UDP 123
Gradual Slew 0.ubuntu.pool.ntp.org 1.ubuntu.pool.ntp.org 2.ubuntu.pool.ntp.org 3.ubuntu.pool.ntp.org	Location specific	Port UDP 123

For most facilities, this is not an issue; but for those with tight firewalls, it's necessary that these ports and IP addresses are open for the system to operate. Note, for NTP gradual slew up-dates whitelisting 0.ubuntu.pool.ntp.org is mandatory.

If Your site Does Not Support DHCP:

Although the simplest IP connection is via DHCP, the player can connect via static IP networks. If you facility does not support DHCP, please provide the following information and provide to us or your technician working on the installation for you.

The player does NOT require a public IP and can work using Network Address Translation (NAT). However, you can use a public IP with the player if desired.

- IP Address   _____
- Subnet   _____
- Default Gateway   _____
- DNS Server 1   _____
- DNS Server 2   _____

Wireless

The following information is required for 802.11a/b/g/n wireless networks:

Security

- Wireless Name (SSID):   _____
- Wireless Key: _____

When the player is turned on, it "calls out" to the server via the Internet connection. Over this connection, the media player sends it's status and inquires about any new content it should download. The media player will stay connected to the server as long as it can. If the connection is lost, the player will wait 30 seconds and attempt to reconnect to the server. The player always "pulls" information from the external server. No external communication will "push" or instigate communication. This ensures that the system and your network are never put at risk.

Bandwidth

The minimum external Internet bandwidth recommended is 512K (download). Since the player is always connected to the server, it periodically sends status information about its health. At most this information requires about 5kb/sec. However, down-loads of the content are much larger depending on the size of the files. Through content management, content is generally downloaded to the player at night but if the bandwidth is small and there's a lot of content this may take a long time. The player can be set to only use a certain amount of bandwidth if required.

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Q: Does the server connection to the player or the player connect to the server?
A: **The player always connects to the server. No inbound connections are ever made to the player.**

Q: What ports do I need to open up?
A: **Port 1100 for the initial connection, port 1101 for discovery connection, port 8093 for the main communication connection and port 21(FTP/FTPS), 80(HTTP) or 443 (HTTPS) for content downloads. These are all outbound TCP connections.**

Q: Are there any open ports on the player?
A: **By default there are no open ports. However, if needed we can enable SSH which opens port 22 on the player.**

Q: Can we initiate downloads at a certain times of the day?
A: **Yes. A download window can be set for anytime of the day or night.**

Q: Can the player limit download speeds?
A: **Yes. EnGage will allow you to limit the download speed of any player.**

Q: Can the media player work with MAC filtering?
A: **Yes.**

Q: Do you work with proxy servers?
A: **No we do not work with proxy servers.**

Q: Which ports and IP addresses does the player connect to?
A: **The EnGage player will only connect to the listed IP addresses and ports. The only exception is when a flash application is developed and played that creates it's own specific external connections not controlled by the EnGage player.**

EnGage consists of a central database and application servers, fronted by a secure web portal providing access to the administration/IT console. EnGage Players connect to the server cluster over a TCP/IP connection using a proprietary protocol.

ComQi EnGage
Data Flow Schematic

Data Flow

Content Upload
1 → 3 → 4

Playlist Upload
1 → 3 → 4

Regular Flow
3 → 3 → 3

Status
3 → 5 → 6

Marketing Feedback
3 → 6

Note: All player connections are made outbound from the player.

Central Server(s)

Web — Network Manager

Content

Statistics/Confirmation
6

1 — User uploads new content and/or schedules new programming

Administrators monitor state of network

3 — Player opens connection to content server. If new content is found, it is downloaded.

4 — Content to be played

2 — User Checks Status on website

5 — Query/Command

Network Administrator — Web Browser Accessible from anywhere — User PC

Marketing/Sales — Web Browser Accessible from anywhere — User PC

Player — Remote Site (eg. Store, Venue) — Media Player